

or indirectly any control over (i) the facility, (ii) power or energy produced by the facility, or (iii) the licensees of the facility. Further, any rights acquired under this authorization may be exercised only in compliance with and subject to the requirements and restrictions of this operating license, the Atomic Energy Act of 1954, as amended, and the NRC's regulations. For purposes of this condition, the limitations of 10 CFR 50.81, as now in effect and as they may be subsequently amended, are fully applicable to the equity investors and any successors in interest to the equity investors, as long as the license for the facility remains in effect.

- (b) Entergy Louisiana, Inc. (or its designee) to notify the NRC in writing prior to any change in (i) the terms or conditions of any lease agreements executed as part of the above authorized financial transactions, (ii) any facility operating agreement involving a licensee that is in effect now or will be in effect in the future, or (iii) the existing property insurance coverages for the facility, that would materially alter the representations and conditions, set forth in the staff's Safety Evaluation enclosed to the NRC letter dated September 18, 1989. In addition, Entergy Louisiana, Inc. or its designee is required to notify the NRC of any action by equity investors or successors in interest to Entergy Louisiana, Inc. that may have an effect on the operation of the facility.

- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter 1 and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

- 1. Maximum Power Level

EOI is authorized to operate the facility at reactor core power levels not in excess of 3716 megawatts thermal (100% power) in accordance with the conditions specified herein.

- 2. Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 183, and the Environment Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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## DEFINITIONS

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### CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

### COLR - CORE OPERATING LIMITS REPORT

1.9a The CORE OPERATING LIMITS REPORT is the Waterford 3 specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Technical Specification 6.9.1.11. Plant operation within these operating limits is addressed in individual specifications.

### DOSE EQUIVALENT I-131

1.10 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in ICRP-30, Supplement to Part 1, Pages 192-212, Tables titled, "Committed Dose Equivalent in Target Organs or Tissue per Intake of Unit Activity."

### $\bar{E}$ - AVERAGE DISINTEGRATION ENERGY

1.11  $\bar{E}$  shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half-lives greater than 15 minutes, making up at least 95% of the total noniodine activity in the coolant.

### ENGINEERED SAFETY FEATURES RESPONSE TIME

1.12 The ENGINEERED SAFETY FEATURES RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable. The response time may be measured by any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

### FREQUENCY NOTATION

1.13 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.

## DEFINITIONS

---

### RATED THERMAL POWER

1.24 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3716 MWt.

### REACTOR TRIP SYSTEM RESPONSE TIME

1.25 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until electrical power is interrupted to the CEA drive mechanism. The response time may be measured by any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

### REPORTABLE EVENT

1.26 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

### SHIELD BUILDING INTEGRITY

1.27 SHIELD BUILDING INTEGRITY shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed,
- b. The shield building filtration system is in compliance with the requirements of Specification 3.6.6.1, and
- c. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

### SHUTDOWN MARGIN

1.28 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all control element assemblies are fully inserted except for the single assembly of highest reactivity worth which is assumed to be fully withdrawn.

TABLE 2.2-1  
REACTOR PROTECTIVE INSTRUMENTATION TRIP SETPOINT LIMITS

WATERFORD - UNIT 3

2-3

AMENDMENT NO. 42, 43, 44, 45, 199

1

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
1. Manual Reactor Trip	Not Applicable	Not Applicable
2. Linear Power Level - High		
Four Reactor Coolant Pumps Operating	$\leq 108\%$ of RATED THERMAL POWER	$\leq 108.76\%$ of RATED THERMAL POWER
3. Logarithmic Power Level - High (1)	$\leq 0.257\%$ of RATED THERMAL POWER (6)	$\leq 0.280\%$ of RATED THERMAL POWER (6)
4. Pressurizer Pressure - High	$\leq 2350$ psia	$\leq 2359$ psia
5. Pressurizer Pressure - Low	$\geq 1684$ psia (2)	$\geq 1649.7$ psia (2)
6. Containment Pressure - High	$\leq 17.1$ psia	$\leq 17.4$ psia
7. Steam Generator Pressure - Low	$\geq 666$ psia (3)	$\geq 652.4$ psia (3)
8. Steam Generator Level - Low	$\geq 27.4\%$ (4)	$\geq 26.48\%$ (4)
9. Local Power Density - High	$\leq 21.0$ kW/ft (5)	$\leq 21.0$ kW/ft (5)
10. DNBR - Low	$\geq 1.26$ (5)	$\geq 1.26$ (5)
11. Steam Generator Level - High	$\leq 87.7\%$ (4)	$\leq 88.62\%$ (4)
12. Reactor Protection System Logic	Not Applicable	Not Applicable
13. Reactor Trip Breakers	Not Applicable	Not Applicable
14. Core Protection Calculators	Not Applicable	Not Applicable
15. CEA Calculators	Not Applicable	Not Applicable
16. Reactor Coolant Flow - Low	$\geq 19.00$ psid (7)	$\geq 18.47$ psid (7)

## REACTIVITY CONTROL SYSTEMS

### 3/4.1.2 BORATION SYSTEMS

#### FLOW PATHS - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

---

3.1.2.1 As a minimum, one of the following boron injection flow paths shall be OPERABLE and capable of being powered from an OPERABLE emergency power source:

- a. A flow path from the boric acid makeup tank via either a boric acid makeup pump or a gravity feed connection and any charging pump to the Reactor Coolant System if the boric acid makeup tank in Specification 3.1.2.7a. is OPERABLE, or
- b. The flow path from the refueling water storage pool via either a charging pump or a high pressure safety injection pump to the Reactor Coolant System if the refueling water storage pool in Specification 3.1.2.7b. is OPERABLE.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With none of the above flow paths OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.\*

#### SURVEILLANCE REQUIREMENTS

---

4.1.2.1 At least one of the above required flow paths shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

---

\* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

## REACTIVITY CONTROL SYSTEMS

### FLOW PATHS - OPERATING

#### LIMITING CONDITION FOR OPERATION

---

3.1.2.2 At least two boron injection flow paths to the RCS via the charging pumps shall be OPERABLE. The following flow paths may be used:

- a. With the contents of either boric acid makeup tank in accordance with Figure 3.1-1, the following flow paths shall be OPERABLE:
  1. One flow path from an acceptable boric acid makeup tank via its boric acid makeup pump; and
  2. One flow path from an acceptable boric acid makeup tank via its gravity feed valve; or
- b. With the combined contents of both boric acid makeup tanks in accordance with Figure 3.1-2, both of the following flow paths shall be OPERABLE:
  1. One flow path consisting of both boric acid makeup pumps, and
  2. One flow path consisting of both gravity feed valves.

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to the requirements of Specification 3.1.1.1 or 3.1.1.2, whichever is applicable, within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.1.2.2 At least two of the above required flow paths shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 18 months during shutdown by verifying that each automatic valve in the flow path actuates to its correct position on an SIAS test signal.
- c. At least once per 18 months by verifying that the flow path required by Specification 3.1.2.2a.1 and 3.1.2.2a.2 delivers at least 40 gpm to the Reactor Coolant System.

## REACTIVITY CONTROL SYSTEMS

### BORATED WATER SOURCES - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

---

3.1.2.7 As a minimum, one of the following borated water sources shall be OPERABLE:

- a. One boric acid makeup tank with a boron concentration between 4900 ppm and 6125 ppm and a minimum borated water volume of 36% indicated level.
- b. The refueling water storage pool (RWSP) with:
  1. A minimum contained borated water volume of 12% indicated level, and
  2. A minimum boron concentration of 2050 ppm.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With no borated water sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes. \*

#### SURVEILLANCE REQUIREMENTS

---

4.1.2.7 The above required borated water source shall be demonstrated OPERABLE:

- a. At least once per 24 hours when the Reactor Auxiliary Building air temperature is less than 55°F by verifying the boric acid makeup tank solution is greater than or equal to 60°F (when it is the source of borated water).
- b. At least once per 7 days by:
  1. Verifying the boron concentration of the water, and
  2. Verifying the contained borated water volume of the tank.

---

\* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

## REACTIVITY CONTROL SYSTEMS

### BORATED WATER SOURCES - OPERATING

#### LIMITING CONDITION FOR OPERATION

3.1.2.8 Each of the following borated water sources shall be OPERABLE:

- a. At least one of the following sources:
  - 1) One boric acid makeup tank, with the tank contents in accordance with Figure 3.1-1, or
  - 2) Two boric acid makeup tanks, with the combined contents of the tanks in accordance with Figure 3.1-2, and
- b. The refueling water storage pool in accordance with Specification 3.5.4.

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

- a. With the above required boric acid makeup tank(s) inoperable, restore the tank(s) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to the requirements of Specification 3.1.1.1 or 3.1.1.2, whichever is applicable; restore the above required boric acid makeup tank(s) to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.
- b. With the refueling water storage pool inoperable, restore the pool to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

4.1.2.8 Each borated water source shall be demonstrated OPERABLE:

- a. At least once per 24 hours by verifying the boric acid makeup tank solution temperature is greater than or equal to 60°F when the Reactor Auxiliary Building air temperature is less than 55°F.
- b. At least once per 7 days by:
  - 1. Verifying the boron concentration in the water, and
  - 2. Verifying the contained borated water volume of the water source.

**REQUIRED STORED BORIC ACID VOLUME  
AS A FUNCTION OF CONCENTRATION  
(VOLUME OF ONE BAMT)**

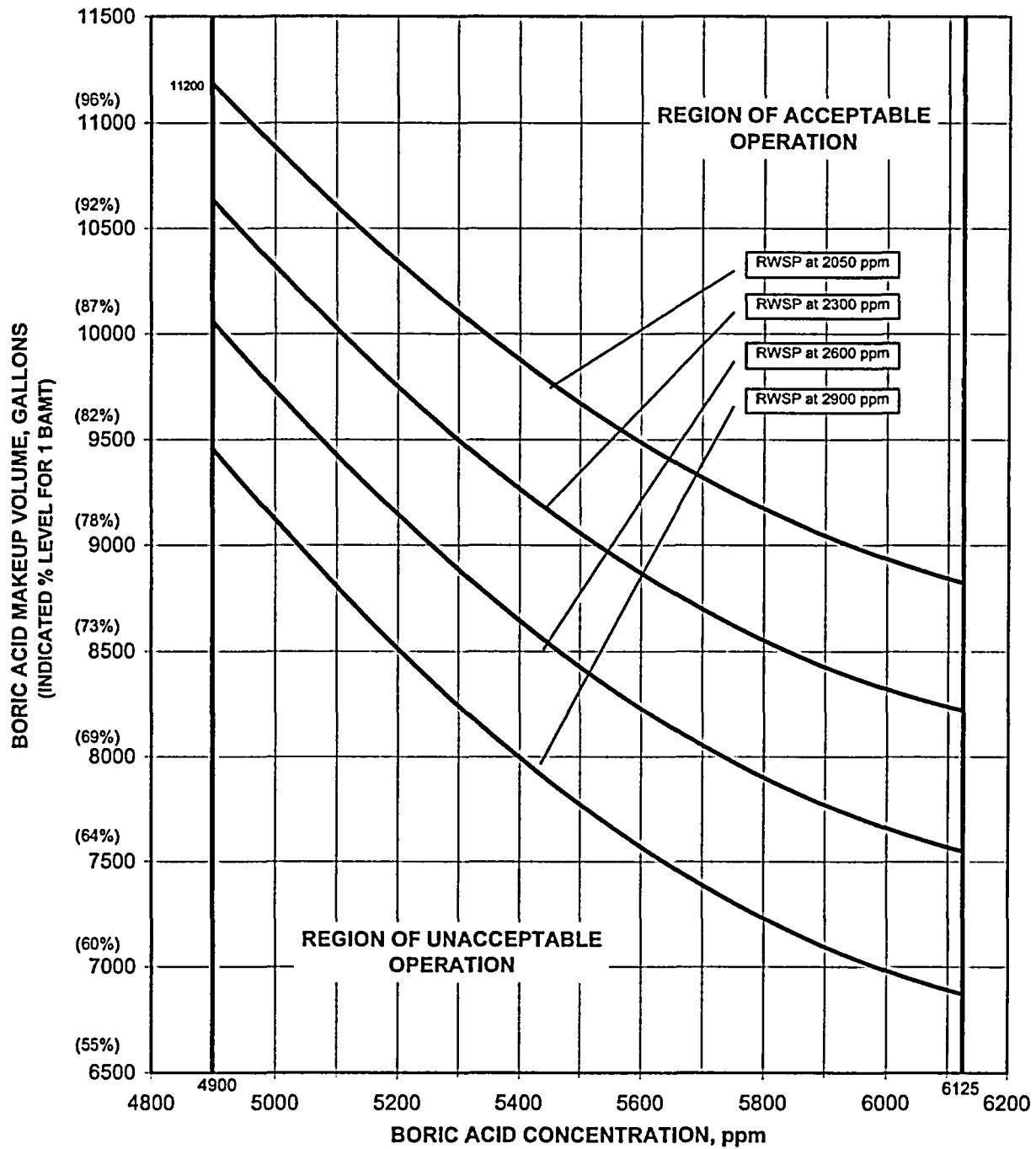


FIGURE 3.1-1



# **REQUIRED STORED BORIC ACID VOLUME AS A FUNCTION OF CONCENTRATION (COMBINED VOLUME OF TWO BAMT)**

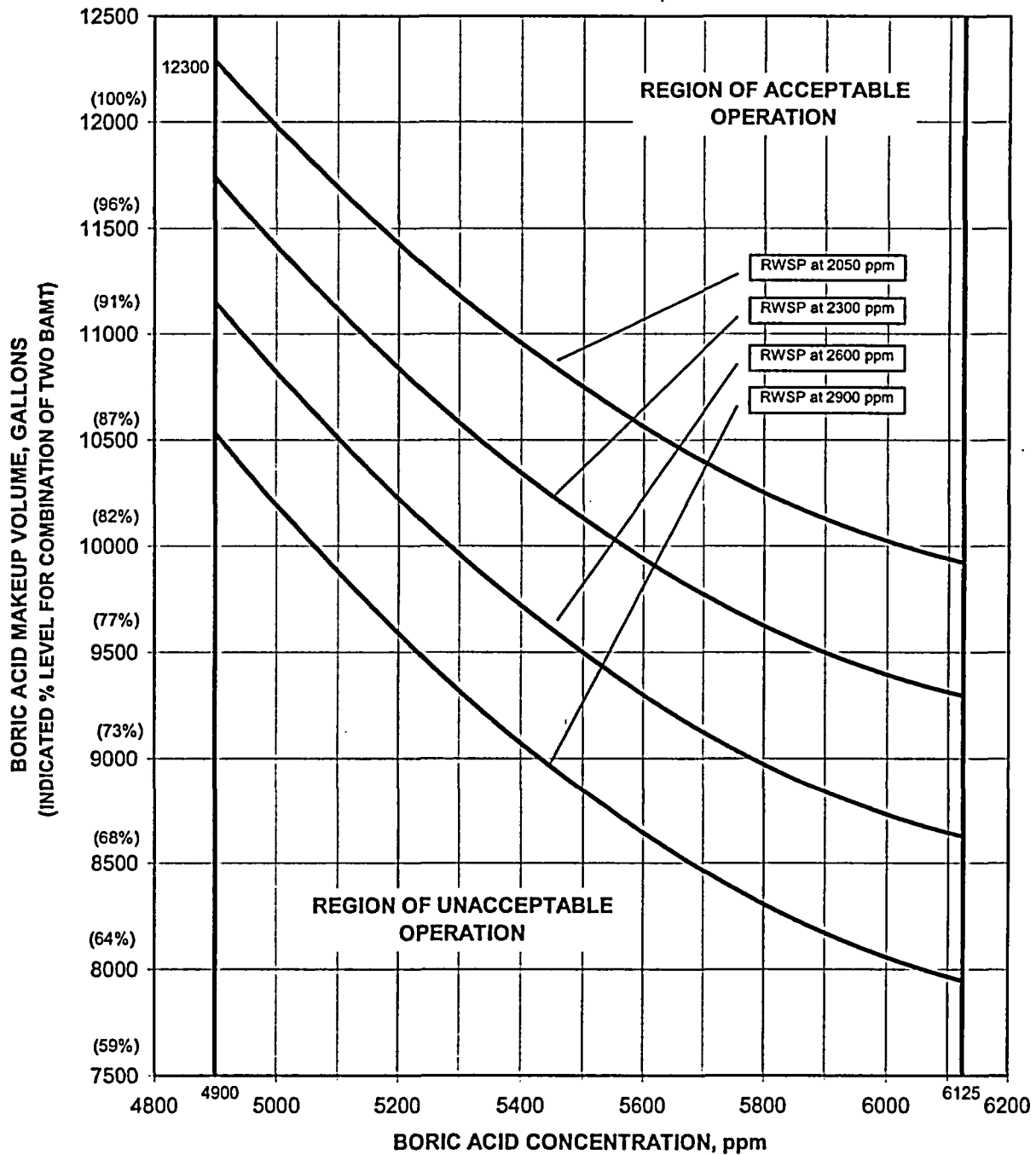


FIGURE 3.1-2

## POWER DISTRIBUTION LIMITS

### 3/4.2.6 REACTOR COOLANT COLD LEG TEMPERATURE

#### LIMITING CONDITION FOR OPERATION

---

3.2.6 The reactor coolant cold leg temperature ( $T_c$ ) shall be maintained between 536°F and 549°F.\*

APPLICABILITY: MODE 1 above 30% of RATED THERMAL POWER.

ACTION:

With the reactor coolant cold leg temperature exceeding its limit, restore the temperature to within its limit within 2 hours or reduce THERMAL POWER to less than 30% of RATED THERMAL POWER within the next 4 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.2.6 The reactor coolant cold leg temperature shall be determined to be within its limit at least once per 12 hours.

---

\*Following a reactor power cutback in which (1) Regulating Groups 5 and/or 6 are dropped or (2) Regulating Groups 5 and/or 6 are dropped and the remaining Regulating Groups (Groups 1, 2, 3, and 4) are sequentially inserted, the upper limit on  $T_c$  may increase to 559°F for up to 30 minutes.

## POWER DISTRIBUTION LIMITS

### 3/4.2.8 PRESSURIZER PRESSURE

#### LIMITING CONDITION FOR OPERATION

---

3.2.8 The steady-state pressurizer pressure shall be maintained between 2125 psia and 2275 psia.

APPLICABILITY: MODE 1

#### ACTION:

With the steady-state pressurizer pressure outside its above limits, restore the pressure to within its limit within 2 hours or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 4 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.2.8 The steady-state pressurizer pressure shall be determined to be within its limit at least once per 12 hours.

TABLE 3.3-4  
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

	<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
1.	SAFETY INJECTION (SIAS)		
a.	Manual (Trip Buttons)	Not Applicable	Not Applicable
b.	Containment Pressure - High	$\leq 17.1$ psia	$\leq 17.4$ psia
c.	Pressurizer Pressure - Low	$\geq 1684$ psia <sup>(1)</sup>	$\geq 1649.7$ psia <sup>(1)</sup>
d.	Automatic Actuation Logic	Not Applicable	Not Applicable
2.	CONTAINMENT SPRAY (CSAS)		
a.	Manual (Trip Buttons)	Not Applicable	Not Applicable
b.	Containment Pressure -- High-High	$\leq 17.7$ psia	$\leq 18.0$ psia
c.	Automatic Actuation Logic	Not Applicable	Not Applicable
3.	CONTAINMENT ISOLATION (CIAS)		
a.	Manual CIAS (Trip Buttons)	Not Applicable	Not Applicable
b.	Containment Pressure - High	$\leq 17.1$ psia	$\leq 17.4$ psia
c.	Pressurizer Pressure - Low	$\geq 1684$ psia <sup>(1)</sup>	$\geq 1649.7$ psia <sup>(1)</sup>
d.	Automatic Actuation Logic	Not Applicable	Not Applicable
4.	MAIN STEAM LINE ISOLATION		
a.	Manual (Trip Buttons)	Not Applicable	Not Applicable
b.	Steam Generator Pressure - Low	$\geq 666$ psia <sup>(2)</sup>	$\geq 652.4$ psia <sup>(2)</sup>
c.	Containment Pressure - High	$\leq 17.1$ psia	$\leq 17.4$ psia
d.	Automatic Actuation Logic	Not Applicable	Not Applicable

TABLE 3.3-4 (Continued)  
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

	<u>FUNCTIONAL UNIT</u>	<u>TRIP VALUE</u>	<u>ALLOWABLE VALUES</u>
5.	SAFETY INJECTION SYSTEM SUMP RECIRCULATION (RAS)		
a.	Manual RAS (Trip Buttons)	Not Applicable	Not Applicable
b.	Refueling Water Storage Pool - Low	10.0% (57,967 gallons)	9.08% (52,634 gallons)
c.	Automatic Actuation Logic	Not Applicable	Not Applicable
6.	LOSS OF POWER		
a.	4.16 kV Emergency Bus Undervoltage (Loss of Voltage)	$\geq 3245$ volts	$\geq 3245$ volts
b.	480 V Emergency Bus Undervoltage	$\geq 372$ volts	$\geq 354$ volts
c.	4.16 kV Emergency Bus Undervoltage (Degraded Voltage)	$\geq 3875$ volts	$\geq 3860$ volts
7.	EMERGENCY FEEDWATER (EFAS)		
a.	Manual (Trip Buttons)	Not Applicable	Not Applicable
b.	Steam Generator (1&2) Level - Low	$\geq 27.4\%^{(3)(4)}$	$\geq 26.48\%^{(3)(4)}$
c.	Steam Generator $\Delta P$ - High (SG-1 > SG-2)	$\leq 123$ psid	$\leq 134$ psid
d.	Steam Generator $\Delta P$ - High (SG-2 > SG-1)	$\leq 123$ psid	$\leq 134$ psid
e.	Steam Generator (1&2) Pressure - Low	$\geq 666$ psia <sup>(2)</sup>	$\geq 652.4$ psia <sup>(2)</sup>
f.	Automatic Actuation Logic	Not Applicable	Not Applicable
g.	Control Valve Logic (Wide Range SG Level - Low)	$\geq 36.3\%^{(3)(5)}$	$\geq 35.3\%^{(3)(5)}$

## REACTOR COOLANT SYSTEM

### OPERATIONAL LEAKAGE

#### LIMITING CONDITION FOR OPERATION

---

3.4.5.2 Reactor Coolant System leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE,
- b. 1 gpm UNIDENTIFIED LEAKAGE,
- c. 75 gallons per day primary-to-secondary leakage per steam generator,
- d. 10 gpm IDENTIFIED LEAKAGE from the Reactor Coolant System, and
- e. 1 gpm leakage at a Reactor Coolant System pressure of  $2250 \pm 20$  psia from any Reactor Coolant System pressure isolation valve specified in Table 3.4-1.

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from Reactor Coolant System pressure isolation valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any Reactor Coolant System pressure isolation valve leakage greater than the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least one closed manual or deactivated automatic valve, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

---

NOTE: Not required to be performed until 12 hours after establishment of steady state operation.

4.4.5.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by performance of a Reactor Coolant System water inventory balance at least once per 72 hours.

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### 3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

#### 3/4.5.1 SAFETY INJECTION TANKS

##### LIMITING CONDITION FOR OPERATION

3.5.1 Each Reactor Coolant System safety injection tank shall be OPERABLE with:

- a. The isolation valve open,
- b. A contained borated water volume of between 40% and 77.8% level,
- c. Between 2050 and 2900 ppm of boron, and
- d. A nitrogen cover-pressure of between 600 and 670 psig.

APPLICABILITY: MODES 1, 2, 3\*, and 4\*.

ACTION: MODES 1, 2, 3 and 4 with pressurizer pressure greater than or equal to 1750 psia.

- a. With one of the required safety injection tanks inoperable due to boron concentration not within limits, restore the boron concentration to within limits within 72 hours or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1750 psia within the following 6 hours.
- b. With one of the required safety injection tanks inoperable due to inability to verify level or pressure, restore the tank to OPERABLE status within 72 hours, or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1750 psia within the following 6 hours.
- c. With one of the required safety injection tanks inoperable for reasons other than ACTION a or b, restore the tank to OPERABLE status within 24 hours, or be in HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1750 psia within the following 6 hours.

\* With pressurizer pressure greater than or equal to 1750 psia. When pressurizer pressure is less than 1750 psia, at least three safety injection tanks must be OPERABLE, each with a minimum pressure of 235 psig and a maximum pressure of 670 psig, and a contained borated water volume of between 61% and 77.8% level. With all four safety injection tanks OPERABLE, each tank shall have a minimum pressure of 235 psig and a maximum pressure of 670 psig, a boron concentration of between 2050 and 2900 ppm boron, and a contained borated water volume of between 39% and 77.8% level. In MODE 4 with pressurizer pressure less than 392 psia (700 psia for remote shutdown from LCP-43), the safety injection tanks may be isolated.



## EMERGENCY CORE COOLING SYSTEMS

### 3/4.5.4 REFUELING WATER STORAGE POOL

#### LIMITING CONDITION FOR OPERATION

---

3.5.4 The refueling water storage pool shall be OPERABLE with:

- a. A minimum contained borated water volume of 83% indicated level,
- b. Between 2050 and 2900 ppm of boron, and
- c. A solution temperature of greater than or equal to 55°F and less than or equal to 100°F.

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

With the refueling water storage pool inoperable, restore the pool to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.5.4 The RWSP shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
  - 1. Verifying the contained borated water volume in the pool, and
  - 2. Verifying the boron concentration of the water.
- b. At least once per 24 hours by verifying the RWSP temperature when the RAB air temperature is less than 55°F or greater than 100°F.

## CONTAINMENT SYSTEMS

### AIR TEMPERATURE

#### LIMITING CONDITION FOR OPERATION

---

3.6.1.5 Primary containment average air temperature shall be  $\geq 90^{\circ}\text{F}^*$  and  $\leq 120^{\circ}\text{F}$ .

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the containment average air temperature outside the limits, restore the average air temperature to within the limits within 8 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.6.1.5 The primary containment average air temperature shall be the arithmetical average of the temperatures at any three of the following locations and shall be determined at least once per 24 hours:

Location

- a. Containment Fan Cooler No. 1A Air Intake
- b. Containment Fan Cooler No. 1B Air Intake
- c. Containment Fan Cooler No. 1C Air Intake
- d. Containment Fan Cooler No. 1D Air Intake

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\* The minimum containment average air temperature limit is only applicable at greater than 70% RATED THERMAL POWER.

### 3/4.7 PLANT SYSTEMS

#### 3/4.7.1 TURBINE CYCLE

##### SAFETY VALVES

##### LIMITING CONDITION FOR OPERATION

---

3.7.1.1 All main steam line code safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one or more main steam line code safety valve inoperable, within 4 hours reduce indicated power to less than or equal to the applicable percent RATED THERMAL POWER listed in Table 3.7-2 and within 12 hours reduce the Linear Power Level - High trip setpoint in accordance with Table 3.7-2, otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

##### SURVEILLANCE REQUIREMENTS

---

4.7.1.1 Verify each required main steam line code safety valve lift setpoint per Table 3.7-1 in accordance with the Inservice Testing Program. Following testing, lift settings shall be within  $\pm 1\%$ .

TABLE 3.7-2

MAXIMUM ALLOWABLE POWER AND LINEAR POWER LEVEL-HIGH TRIP SETPOINT WITH INOPERABLE  
STEAM LINE SAFETY VALVES

<u>MAXIMUM NUMBER OF INOPERABLE SAFETY VALVES ON ANY OPERATING STEAM GENERATOR</u>	<u>MAXIMUM ALLOWABLE POWER (% RTP)</u>	<u>LINEAR POWER LEVEL - HIGH TRIP SETPOINT (% RTP)</u>
1	85.3	$\leq 93.3$
2	66.7	$\leq 74.7$

## PLANT SYSTEMS

### CONDENSATE STORAGE POOL

#### LIMITING CONDITION FOR OPERATION

---

3.7.1.3 The condensate storage pool (CSP) shall be OPERABLE with:

- a. A minimum contained volume of at least 92% indicated level.\*
- b. A water temperature of greater than or equal to 55°F and less than or equal to 100°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

##### In MODES 1, 2, and 3:

With the condensate storage pool inoperable, within 4 hours restore the CSP to OPERABLE status or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

##### In MODE 4:

With the condensate storage pool inoperable, within 4 hours restore the CSP to OPERABLE status or be in at least COLD SHUTDOWN within the next 24 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.7.1.3.1 The condensate storage pool shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying the contained water volume is within its limits.
- b. At least once per 24 hours by verifying CSP temperature when the RAB air temperature is less than 55°F or greater than 100°F.

\*In MODE 4, the CSP shall be OPERABLE with a minimum contained volume of at least 11% indicated level.

## PLANT SYSTEMS

### MAIN STEAM LINE ISOLATION VALVES (MSIVs)

#### LIMITING CONDITION FOR OPERATION

---

3.7.1.5 Two MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1, and  
MODES 2, 3, and 4, except when all MSIVs are closed and deactivated.

#### ACTION:

##### MODE 1

With one MSIV inoperable, restore the valve to OPERABLE status within 8 hours or be in STARTUP within the next 6 hours.

##### MODES 2, 3 and 4

With one MSIV inoperable, close the valve within 8 hours and verify the valve is closed once per 7 days. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

---

Note: Required to be performed for entry into MODES 1 and 2 only.

4.7.1.5 Each MSIV shall be demonstrated OPERABLE:

- a. By verifying full closure within 8.0 seconds when tested pursuant to the Inservice Testing Program.
- b. By verifying each MSIV actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months.

## PLANT SYSTEMS

### MAIN FEEDWATER ISOLATION VALVES

#### LIMITING CONDITION FOR OPERATION

---

3.7.1.6 Each Main Feedwater Isolation Valve (MFIV) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Note: Separate Condition entry is allowed for each valve.

With one or more MFIV inoperable, close and deactivate, or isolate the inoperable valve within 72 hours and verify inoperable valve closed and deactivated or isolated once every 7 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 do not apply.

#### SURVEILLANCE REQUIREMENTS

---

4.7.1.6 Each main feedwater isolation valve shall be demonstrated OPERABLE:

- a. By verifying isolation within 6.0 seconds when tested pursuant to the Inservice Testing Program.
- b. By verifying actuation to the isolation position on an actual or simulated actuation signal at least once per 18 months.

### 3/4.7 PLANT SYSTEMS

#### 3/4.7.1.7 ATMOSPHERIC DUMP VALVES

##### LIMITING CONDITION FOR OPERATION

---

3.7.1.7 Each Atmospheric Dump Valve (ADV) shall be OPERABLE\*.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

- a. With the automatic actuation channel for one ADV inoperable, restore the inoperable ADV to OPERABLE status within 72 hours or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.
- b. With the automatic actuation channels for both ADVs inoperable, restore one ADV to OPERABLE status within 1 hour or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.
- c. With one ADV inoperable, for reasons other than above, restore the ADV to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable provided one ADV is OPERABLE.

##### SURVEILLANCE REQUIREMENTS

---

4.7.1.7 The ADVs shall be demonstrated OPERABLE:

- a. By performing a CHANNEL CHECK at least once per 12 hours when the automatic actuation channels are required to be OPERABLE.
- b. By verifying each ADV automatic actuation channel is in automatic with a setpoint of less than or equal to 1040 psia at least once per 92 days when the automatic actuation channels are required to be OPERABLE.
- c. By verifying one complete cycle of each ADV when tested pursuant to the Inservice Testing Program.
- d. By performing a CHANNEL CALIBRATION of each ADV automatic actuation channel at least once per 18 months.
- e. By verifying actuation of each ADV to the open position on an actual or simulated automatic actuation signal at least once per 18 months.

---

\* ADV automatic actuation channels (one per ADV, in automatic with a setpoint of less than or equal to 1040 psia) are not required to be OPERABLE when less than or equal to 70% RATED THERMAL POWER for greater than 6 hours.



### 3/4.8 ELECTRICAL POWER SYSTEMS

#### 3/4.8.1 A.C. SOURCES

##### OPERATING

##### LIMITING CONDITION FOR OPERATION

---

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Two separate and independent diesel generators, each with:
  - 1. Diesel oil feed tanks containing a minimum volume of 339 gallons of fuel, and
  - 2. A separate diesel generator fuel oil storage tank containing:
    - a. A minimum volume of 39,300 gallons of fuel, or
    - b. A fuel oil volume less than 39,300 gallons and greater than 37,000 gallons of fuel for a period not to exceed 5 days (provided replacement fuel oil is onsite within the first 48 hours), and
  - 3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3, and 4.

##### ACTION:

- a. With one offsite circuit of 3.8.1.1a inoperable, demonstrate the OPERABILITY of the remaining offsite A.C. circuit by performing Surveillance Requirement 4.8.1.1.1a within 1 hour and at least once per 8 hours thereafter. Restore the offsite A.C. circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one diesel generator of 3.8.1.1b inoperable:
  - (1) Demonstrate the OPERABILITY of the remaining A.C. circuits by performing Surveillance Requirements 4.8.1.1.1a (separately for each offsite A.C. circuit) within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator (unless it has been successfully tested in the last 24 hours) by performing Surveillance Requirement 4.8.1.1.2a.4 within 8 hours unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated.
  - (2) Restore the diesel generator to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours, unless the following condition exists:

## ELECTRICAL POWER SYSTEMS

### A.C. SOURCES

### SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

---

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One diesel generator with:
  1. A diesel oil feed tank containing a minimum volume of 339 gallons of fuel, and
  2. The diesel fuel oil storage tanks containing:
    - a. A minimum volume of 39,300 gallons of fuel, or
    - b. A fuel oil volume less than 39,300 gallons and greater than 37,000 gallons of fuel for a period not to exceed 5 days (provided replacement fuel oil is onsite within the first 48 hours), and
  3. A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or boron concentration, movement of irradiated fuel, or crane operation with loads over the fuel storage pool. In addition, when in MODE 5 with the reactor coolant loops not filled, or in MODE 6 with the water level less than 23 feet above the top of the fuel seated in the reactor pressure vessel, immediately initiate corrective action to restore the required sources to OPERABLE status.

#### SURVEILLANCE REQUIREMENTS

---

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 (except for Surveillance Requirement 4.8.1.1.2a.5.)

## 5.0 DESIGN FEATURES

### 5.1 SITE

#### EXCLUSION AREA

5.1.1 The exclusion area shall be as shown in Figure 5.1-1.

#### LOW POPULATION ZONE

5.1.2 The low population zone shall be as shown in Figure 5.1-2.

#### MAP DEFINING UNRESTRICTED AREAS FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS

5.1.3 Information regarding radioactive gaseous and liquid effluents, which will allow identification of structures and release points as well as definition of UNRESTRICTED AREAS within the SITE BOUNDARY that are accessible to MEMBERS OF THE PUBLIC, shall be as shown in Figure 5.1-3.

The definition of UNRESTRICTED AREA used in implementing these Technical Specifications has been expanded over that in 10 CFR 20.1003. The UNRESTRICTED AREA boundary may coincide with the Exclusion (fenced) Area boundary, as defined in 10 CFR 100.3(a), but the UNRESTRICTED AREA does not include areas over water bodies. For calculations performed pursuant to 10 CFR 50.36a, the concept of UNRESTRICTED AREAS, established at or beyond the SITE BOUNDARY, is utilized in the Controls to keep levels of radioactive materials in liquid and gaseous effluents as low as is reasonably achievable.

### 5.2 NOT USED

## DESIGN FEATURES

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### 5.6 FUEL STORAGE

#### CRITICALITY

5.6.1 The spent fuel storage racks are designed and shall be maintained with:

- a. A normal  $k_{eff}$  of less than or equal to 0.95 when flooded with unborated water, which includes a conservative allowance for uncertainties.
- b. A nominal 10.185 inch center-to-center distance between fuel assemblies placed in Region 1 (cask storage pit) spent fuel storage racks.
- c. A nominal 8.692 inch center-to-center distance between fuel assemblies in the Region 2 (spent fuel pool and refuelling canal) racks, except for the four southernmost racks in the spent fuel pool which have an increased N-S center-to-center nominal distance of 8.892 inches.
- d. New or partially spent fuel assemblies may be allowed unrestricted storage in Region 1 racks.
- e. New fuel assemblies may be stored in the Region 2 racks provided that they are stored in a "checkerboard pattern" as illustrated in Figure 5.6-1.
- f. Partially spent fuel assemblies with a discharge burnup in the "acceptable range" of Figure 5.6-2 may be allowed unrestricted storage in the Region 2 racks.
- g. Partially spent fuel assemblies with a discharge burnup in the "unacceptable range" of Figure 5.6-2 may be stored in the Region 2 racks provided that they are stored in a "checkerboard pattern", as illustrated in Figure 5.6-1, with spent fuel in the "acceptable range" of Figure 5.6-3.

5.6.2 The  $k_{eff}$  for new fuel stored in the new fuel storage racks shall be less than or equal to 0.95 when flooded with unborated water and shall not exceed 0.98 when aqueous foam moderation is assumed.

#### DRAINAGE

5.6.3 The spent fuel pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation +40.0 MSL. When fuel is being stored in the cask storage pit and/or the refueling canal, these areas will also be maintained at +40.0 MSL.

#### CAPACITY

5.6.4 The spent fuel pool is designed and shall be maintained with a storage capacity limited to no more than 1849 fuel assemblies in the main pool, 255 fuel assemblies in the cask storage pit and after permanent plant shutdown 294 fuel assemblies in the refueling canal. The heat load from spent fuel stored in the refueling canal racks shall not exceed  $1.72 \times 10^6$  BTU/Hr. Fuel shall not be stored in the spent fuel racks in the cask storage pit or the refueling canal unless all of the racks are installed in each respective area per the design.

### 5.7 NOT USED

PAGES 5-7, 5-8, and 5-9 NOT USED

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## ADMINISTRATIVE CONTROLS

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### 6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1-1978 except that:

- a. The Radiation Protection Superintendent shall meet or exceed the minimum qualifications of Regulatory Guide 1.8, September 1975.
- b. Personnel in the Health Physics, Chemistry and Radwaste Departments shall meet or exceed the minimum qualifications of ANSI N18.1-1971.
- c. The licensed Operators and Senior Operators shall also meet or exceed the minimum qualifications of 10 CFR Part 55.
- d. Personnel in the Nuclear Quality Assurance Department, and other staff personnel who perform inspection, examination, and testing functions, shall meet or exceed the minimum qualifications of Regulatory Guide 1.58, Rev. 1, September 1980. (Endorses ANSI N45.2.6-1978).

### 6.4 TRAINING

6.4.1 A retraining and replacement training program for the unit staff shall be maintained under the direction of the Training Manager-Nuclear and shall meet or exceed the requirements and recommendations of Section 5.2 of ANSI 3.1-1978 and 10 CFR Part 55.

### 6.5 PROGRAMS

The following programs shall be established, implemented, and maintained.

6.5.1 through 6.5.4 will be used later.

#### 6.5.5 COMPONENT CYCLIC OR TRANSIENT LIMIT

This program provides controls to track Technical Requirements Manual Section 5.7 cyclic and transient occurrences to ensure that components are maintained within the design limits.

6.5.6 Will be used later.

#### 6.5.7 REACTOR COOLANT PUMP FLYWHEEL INSPECTION PROGRAM

This program shall provide for the inspection of each reactor coolant pump flywheel per the recommendation of Regulatory Position C.4.b of Regulatory Guide 1.14, Revision 1, August 1975. The volumetric examination per Regulatory Position C.4.b.1 will be performed on approximately 10-year intervals.

## ADMINISTRATIVE CONTROLS

### CORE OPERATING LIMITS REPORT COLR (Continued)

6) "CESEC - Digital Simulation for a Combustion Engineering Nuclear Steam Supply System," CENPD-107. (Methodology for Specification 3.1.1.1 and 3.1.1.2 for Shutdown Margins, 3.1.1.3 for MTC, 3.1.3.1 for Movable Control Assemblies - CEA Position, 3.1.3.6 for Regulating and group P CEA Insertion Limits, and 3.2.3 for Azimuthal Power Tilt).

7) "Qualification of Reactor Physics Methods for the Pressurized Water Reactors of the Entergy System," ENEAD-01-P. (Methodology for Specifications 3.1.1.1 and 3.1.1.2 for Shutdown Margins, 3.1.1.3 for MTC, 3.1.3.6 for Regulating and group P CEA Insertion Limits, 3.1.2.9 Boron Dilution (Calculation of CBC & IBW), and 3.9.1 Boron Concentration).

8) "Fuel Rod Maximum Allowable Gas Pressure," CEN-372-P-A. (Methodology for Specification 3.2.1, Linear Heat Rate).

9) "Technical Description Manual for the CENTS Code," WCAP-15996-P-A. (Methodology for Specification 3.1.1.1 and 3.1.1.2 for Shutdown Margins, 3.1.1.3 for MTC, 3.1.3.1 for Movable Control Assemblies - CEA Position, 3.1.3.6 for Regulating and group P CEA Insertion Limits, and 3.2.3 for Azimuthal Power Tilt).

10) "Calculative Methods for the CE Nuclear Power Large Break LOCA Evaluation Model," CENPD-132, Supplement 4-P-A. (Methodology for Specification 3.1.1.3 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt and 3.2.7 for ASI).

6.9.1.11.2 The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

6.9.1.11.3 The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

### SPECIAL REPORTS

6.9.2 Special reports shall be submitted in accordance with 10 CFR 50.4 within the time period specified for each report.

6.10 Not Used